

<https://helda.helsinki.fi>

---

## Children experience Science

Duploux, Anne

2015-06

---

Duploux , A 2015 , ' Children experience Science ' , Antenna , vol. 39 , no. 2 , pp. 72-73 .

---

<http://hdl.handle.net/10138/232318>

---

publishedVersion

---

*Downloaded from Helda, University of Helsinki institutional repository.*

*This is an electronic reprint of the original article.*

*This reprint may differ from the original in pagination and typographic detail.*

*Please cite the original version.*

# tiede tulee tarhaan!



**mitä perhonen tekee talvella?  
voiko kasvi tulla kipeäksi?  
mitä perhosvauva syö?  
mikä on pipetti?  
mitä tutkija tekee?**

Uteliaisuus on tieteiden tekemisen perusta, ja lapset ovat luontaisesti uteliaita. **Tiede tulee tarhaan** on evoluutioekologi Anna-Liisa Laineen tutkimusryhmän ideoitu ja toteuttama sarja työpajoja, joissa päiväkotilapset kutsutaan yliopistolle tutustumaan tieteeseen ja tieteentekijöihin. Työpajoissa lapset pääsevät itse tekemään oikeita, tieteellisiä kokeita. Kokeiden avulla heillä on ainutlaatuinen mahdollisuus tutustua siihen, miten monilla tavoin eri eläin- ja kasvilajit kytkeytyvät luonnossa toisiinsa.

Lisätietoja  
Akatemiatutkija Anna-Liisa Laine,  
[anna-liisa.laine@helsinki.fi](mailto:anna-liisa.laine@helsinki.fi)  
<http://www.allaine.it.helsinki.fi>



Figure 1. Poster of the "Science goes Kindergarten" project. Pre-school children are invited to visit the University of Helsinki and discover Biology and meet with researchers. Questions such as "what do butterflies do during winter? Do plants get sick? What do caterpillars eat? What is a pipette? Or what do pupae do?" found their answers through different ateliers.

# Children experience Science

**Dr. Anne Duploux**

Department of Biosciences,  
The Metapopulation Research Group,  
The University of Helsinki,  
00790 Helsinki, Finland  
e-mail: anne.duploux@helsinki.fi

In the last two years, researchers from the Metapopulation Research Group (MRG) at the University of Helsinki, Finland, have, under the initiative of Dr. Anna-Liisa Laine, introduced more than 150 pre-school children to Biological Science and the profession of researcher. The project is called “Tiede Tulee Tarhaan” in Finnish, which translates into “Science goes Kindergarden” (Figure 1). The project consists of groups of three to four children from the same class rotating between six to seven ateliers (workshops) over the course of one morning. Each morning starts with a short presentation from each researcher present on the day, including their name and nationality. There is then time for a few questions and definitions. What is a University? Who works at the University? What do researchers do? Children often have interesting answers for each of those questions. Finally, the children are introduced to the different science ateliers. The MRG researchers have been investigating the biology of species inhabiting fragmented landscape since 1992. Their model species include, but are not restricted to, the Glanville fritillary butterfly (*Melitaea cinxia*), its parasitoid wasps (*Hyposoter horticola*, *Cotesia melitaeorum*), its host plant (*Plantago lanceolata*) and its parasitic fungus (*Podosphaera plantaginis*). The ateliers presented to the children were, at first, mostly focusing on those few species, but evolved with time to introduce other species and systems, including earth-worms, dung-beetles and bacteria. Each atelier is very much hands-on, the children can observe,

touch and ask any question to the researchers in charged.

One of the ateliers focuses on the Glanville fritillary butterfly. It presents the different stages of the butterfly life cycle: the live larvae still eating their host plant, a few immobile pupae and their silk allowing them to stick to a support, the adult butterflies flying inside their cage. Children are also asked to identify the female and male individuals based on their wingspan. They are offered wings preserved under transparent plastic films, the larger wings are from females. Sometimes the size difference is difficult to observe, children and researchers then discuss other ways to tell the different sexes. Fifteen minutes have past and it is time for the first rotation, the next atelier brings the children to the laboratory. Before entering the lab, children and adults must put on a lab-coat. Then they can sit at the bench and learn how to manipulate a pipette for mixing solutions. Children are taught that this is one of the tasks the researchers sitting at the next bench are currently doing. Their solutions are however not as colourful. This is no easy task, but kids seem to enjoy the hard work, and they show their excitement for the colourful results. Questions are asked; everyone wants to know something more, something different. Laughs and serious looks are exchanged. What is coming next? Indeed, it is again time to rotate. The next atelier may be the “plant-parasite” or the “bacteria” and an opportunity to look under a microscope, or the “earth-worms” or “seed planting” and a chance to get all hands dirty with soil, or again the “dung-beetles” atelier and the possibility to use forceps to try and order those carabids by size.

My own very first memory of a Biology class was when I was 10 years old. I remember a hot spring school day. The sun is shining in the room, the air is warm and filled with the smells of wood, black ink and chalk. I am standing with my classmates around a large aquarium tank, placed on the last

table of the classroom. It is not filled with water but with branches covered of green fresh leaves. I look more carefully, more intensely, and finally I can spot a couple of those green and black caterpillars. I am fascinated: they are eating the leaves so fast! They are also so much bigger than yesterday! Of that particular day, I also remember being very impatient. We had been following the growth of those caterpillars for some time and I was aware they would be soon changing into pupae and then into butterflies. I knew this because our teacher had given us a lesson earlier in the week presenting the life cycle of butterflies. I could not wait to witness the different stages, and to finally release the adult butterflies into the wild. When I take part in the “Science goes Kindergarden” project I can therefore understand these children’s excitement when lunchtime comes; when it is time to go back to the bus and then back to their classroom. I can imagine that the topics of their conversations will remain the same for a little longer. They will be telling everything they have learned at the University with those researchers in white lab-coats to their parents and siblings at diner tonight, maybe over the entire week or weekend. Hopefully their next drawing will be a butterfly, a plant parasitized by a fungus or a shiny beetle.

I can only hope that these children’s enthusiasm will grow with time, and that their answer to the classic question on what they want to do when being a grown-up to be “a researcher”. Simply because research is (“cool”) exciting, at least that was what I thought and is still what I think! Initiatives such as the one launched by Dr. Laine at the University of Helsinki should be encourage, for our young and curious children to discover Biology. Because our role as researcher is not only to test hypothesis through different sets of experiments, but also to communicate our results to our peers, the scientific community and to the general public, so everyone may know what happen behind the doors of our universities.